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ABSTRACT

In response to the Holmes and Carnegie reports that call for educational reforms in the teaching profession, this paper argues that the financial support for these future reforms will be diverted to fund the research to combat the emerging national crises that ultimately will threaten national security. Describing the emerging crises in this paper as being internal threats of significant magnitude, they are: (1) the prospective food shortage; (2) the energy shortage; (3) the greenhouse effect; (4) the cost of decommissioning nuclear plants; and (5) the cost of AIDS. In addition, other crises are listed as being additional financial drains on the funds that would be used for educational reforms. To fight these crises and to prevent future crises, a societal transformation is required. However, research on U.S. society reveals that citizens are unwilling to give up their materialistic habits and have little interest in the self-denial or austerity that are needed to bring about this transformation. The admonition to U.S. society is then to live more simply, to preserve natural resources, and to build a new image for the future. (DJC)

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EDUCATIONAL REFORM OR NATIONAL SURVIVAL:

TAKE YOUR PICK

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EDUCATIONAL REFORM OR NATIONAL SURVIVAL - TAKE YOUR PICK!

My title employs Aristotle's "Law of the Excluded Middle" wherein the reader is offered a polarized choice - in this case, a forced choice neither of which is wholly acceptable without the other. I propose that we are entangled in a multifaceted dilemma the outcome of which will please no one.

This paper seeks to compare the conflicting demands of educational reform with a few emerging or present demands from several environmental and social developments.

Educational reform surfaced most forcefully with the advent of Sputnik. That effort carried with it a strong mathematics and science commitment. The reform call has gone out again but this time in response to a development in this country. When "A Nation At Risk" was released everyone's attention was captured by the phrase beginning "If an unfriendly power had attempted..." and ended with,"...we might well have viewed it as an act of war". This very language suggests a national defense or militaristic mentality.

More recently the Holmes and Carnegie reports have followed. These propose reforms not of curriculum but of the teaching profession itself - both preparation and practice. These new reforms seek to put teaching on a truly professional level. I perceive several emerging crises that threaten the fulfillment of this needed reform and this threat takes two forms. The first is simply financial. These developing crises will prove to be a substantial drain on our financial resources leaving little for what are really some staggaring proposed educational expenditures. The second form of this threat is that when these crises become evident and/or full blown they will demand the attention of an uncommonly large proportion of our national scientific, managerial, and educational talent who will be called aside to address these emerging issues. This results in both a shortfall in creative human manpower and also a dilution of national attention and energy and ultimately, the will to respond to our valid need for educational reform. The emerging issues to which I refer are, in the human experience, ponderously slow so that incremental change escapes casual notice. An irony of incremental but inexorable change is that as one looks around there is no immediate evidence for the existance of these changes. This makes it very difficult to marshall the resources or interest of a society in a cause that is from moment to moment rather invisible but devastating in the long term.

REDEFINING NATIONAL SECURITY

"National security" stands accused as an Orwellian "newspeak" term that invokes silence, terminates conversation, stifles thinking, and closes minds. It is used to justify the

maintenance of armies, the development of sophisticated (and often unreliable) weapon systems. A fourth of all federal taxes in the United States is levied in its name. The concept has an overwhelmingly military character with the premise that all or most threats to security come from outside our borders. (Brown,1986)

So connected to a military countenance has national security become that newly developing internal threats to our security of a non-military nature are too easily ignored. All eyes are looking outward beyond our national borders with little attention to examining what is happening in our own backyard. Some of these sources of threat arise from educational decay, declining industrial competativeness, domestic oil depletion, nuclear plants, nuclear waste, pollution of all kinds, decline of our nutritional and medical health, soil erosion, land degradation, shrinking forests, spoiled grasslands and wetlands, climate alteration, violence, decay of our social instituions. Add to this the sources of threat from ethical erosion such as Wall Street insider trading, government agencies breaking Congressional mandates in the best Rambo tradition, drug and law enforcement officers being seduced by the easy money in crime, General Dynamics cheating the government out of millions of dollars on military contracts, Federal judges taking bribes, military personnel selling intelligence information for sex or money, erosion of the family as an institution with a 50% divorce rate, child abuse, abandonment, State Governors going to prison, the growing popularity of the KKK and Neo-Nazi groups,...and so on. The point is clear!

The mere handful of developing difficulties considered in this paper alone constitute an internal threat of significant magnitude. The fact that these encroach in large time frames ought not to be reassuring. The crises considered in this paper are:

I. A deteriorating agricultural sector and the prospect of forthcoming food shortages. This begins with serious inroads in our ability to export food to other countries and ultimately in our ability to even feed ourselves. Can we tolerate even modest population growth in America?

II. Once again a developing energy crisis (including oil) largely brought on by our failure to resolve its origins the first time around and our propensity to resort to the same kinds of reactions the second time around.

III. The emerging Greenhouse Effect investigated by several Federal Agencies (The National Academy of Sciences, the Environmental Protection Agency, and many private and university research groups). The implications for energy consumption, impact on agriculture and coastal flooding appear in print

only in passing and currently without much substance. However these may soon be seen to surface more frequently in the media as major developments.

IV. The unanticipated and staggering costs of decommissioning existing nuclear plants and the storage of radioactive wastes.

V. The research/education/treatment costs emanating from the disease AIDS.

Following is an abbreviated examination of these five developing crises.

I. PROSPECTIVE FOOD SHORTAGES:

"Carrying Capacity", a contractual "think tank" in Washington, D.C., has conducted research that suggests that with the continuation of certain existing agricultural, meteorological, economic and policy conditions, our food export capacity will, in retrospect, have peaked during the 1980's and would drop to zero around the year 2000 with the implication that we are able only to feed ourselves. After that, the United States joins the many other nations seeking imported food. By the year 2020 projections indicate that we will produce only enough food to feed from 130 to 200 million people. Our present national population is presently in excess of that now and growing slowly (Passerini, 1984). Even if this can be averted it does not address the source of the problem but only treats the symptoms. Farm foreclosures, at the highest level since the Great Depression, are weakening the U.S. banking system in a way that alarms federal banking regulators. A portion of the farm debt - $213 billion at the end of 1985 - will never be repaid (Brown, 1986).

The origins of our declining agricultural sector may lie with agricultural errors so deeply rooted in practice they will be difficult to address. Recent archeological and anthropological research on the now vanished civilizations of South America suggest that as goes a society's soil, so goes the nation. Present agricultural practices use too much energy, erode soils, lower water tables and in the long term, are <u>unsustainable</u>. (Brown; 1986,1987)

The California Central and Imperial valleys supply slightly less than half of the nation's fruit, nuts, and vegatables and about one-fourth of its cotton. By the year 2000 one third of all California farmland (1.5 million acres) could be destroyed by salt. Land without irrigation is worthless; with irrigation, it salts up. Six thousand years ago the Summerians overwatered their land. Today, in Iraq, that same land still cannot be farmed (Maranto, 1985).

The dollar costs of the large irrigation projects are escalating at the same time as the effectiveness and efficiency of irrigation declines. The depletion of natural aquifers containing ground water contributes to agricultural decline. Irrigation adjustments to an increasingly hot and dryer climate in the U.S. will require between 7 billion and 23 billion dollars. The connection of energy consumption and agriculture is becoming another emerging factor in agricultural decline. Present farming practices encourage soil erosion at rates seven time the tolerable rates set by the Department of Agriculture. (Brown; 1986, 1987).

Current estimates are that the U.S. land mass cannot support more than 150 million people for much longer than a century without considerable decline of the biological resource base that supports all life. If we continue our current growth rate the population of the United States will rise from its approximately 230 million to over 300 million in the next century (Passerini, 1984).

In making a transition to the next topic - energy - I need to point out that since this nation is perhaps the most overfed in the world, we find ourselves continually counting calories. Calories are measurements of energy content. I have a question for you. If your search for food expended more caloric energy than the food you found, what are your prospects? No creature can expend more energy obtaining food than the food itself yields in nutrition. One must break even at least. On a national scale we seem not to have learned this lesson. In 1910 our mechanized agricultural system was calorically breaking even. We were expending one calorie as input for every one calorie of output. Today our ratio of energy invested to energy harvested runs from 10:1 to 25:1. In other words we are investing from between 10 to 25 calories of energy into our food system for every one calorie of yield extracted out of the system. This is <u>unsustainable.</u>

ENERGY SHORTAGES

In retrospect we may recall that President Carter tried to alert this nation to its habits of energy extravagance. The present administration has sought to curtail research into alternative energy systems, defeat legislation for more economical transportation, and cut funding for mass transit. Yet the drain goes on and even if OPEC presently shows little cohesion that is no reason that they cannot get a hold on our energy jugular once again. The incredible transfer of wealth from industrialized societies to the oil barons of the world may happen again. That they reinvest much of their petrodollars in the U.S. only means that when the last barrel of oil is sold, they, not us, will own much of America. (Flavin, 1987) There is a striking linkage between oil (or energy in general) and the production of food. The production of a ton of wheat is now equated with how much oil or coal energy equivalent is involved

(Brown, 1987) Earlier estimates of the energy/food link revealed ratios of between 10:1 to 25:1 for energy input/output - that is, for some agricultural practices we invest 25 calories of energy to harvest a yield of one calorie's energy in foodstuffs. Hardly a bargain! At risk is not only national security but our ability to reduce our 170 billion dollar trade deficit. U.S. dependence on foreign oil is expected to rise from 32% in 1983 to 50-70% in the mid-1990's. Data Resources Incorporated (DRI) pegs oil at $61.92 a barrel by the year 2000 (Crawford, 1987). There is a 25% jobless rate among petroleum geologists. Universities offering academic preparation in the oil professions report major drops in enrollments to half of their 1982 peaks. This decrease in production capability and manpower brain-drain will mean that a revival of American production will take years to restart and more years to yield meaningful results. In the longer term the United States as a whole will be hurt by the collapse in domestic oil production because the national dependence on imported oil will escalate significantly. A 43% increase in imported oil between September 1985 and September 1986 is an example. This feeds the trade deficit which in turn siphons away funds that are badly needed at home to obtain our desired educational reform, among other needs. Because this country tends to be short-term oriented and because people are generally happy with the present lower energy prices, there is only a small probability of any action before the problem becomes severe. For these reasons a future national energy crisis seems likely when U.S. oil dependence is above 50% and OPEC has regained control of world oil markets (Hirsch, 1987).

THE GREENHOUSE EFFECT

Man's pre-industrial activities, (transportation, agriculture, industry, etc.) have not historically interferred with natural cycles. But the magnitude of these activities since the industrial revolution has been so substantial that they now count heavily in the equation of natural chemical cycles. The release of various gases (carbon dioxide, methane, nitrogen oxides, etc) above and beyond the natural evolution of these into the atmosphere is deemed to contribute to the gradual increase in the earth's average temperature. Present atmospheric models suggest that the average temperature will rise between 1.5 and 4.5 degrees Celsius (2.7 to 8.1 degrees Fahrenheit) by the middle of the next century. For comparison consider that the oceans were only about 5 degrees colder than presently during the last ice age when sheets of ice over 10,000 feet thick covered much of the northern hemisphere. Natural systems - people, forests, climate -can absorb stresses for long periods of time without any outward evidence of damage. A point is reached when suddenly conditions worsen rapidly. Scientists may anticipate such sudden changes, called jump events, but rarely can they identify when they will occur. The occurance of many such events is written in the geologic record. As the scale and rate of human activities

intensify, the risk of overstepping such thresholds increases. The present concern over the ozone hole above the Antactic continent is a current example. The eventual warming would make the earth warmer than at any time in human history. The risks to food security are substantial. Temperatures will rise everywhere but increases are forecast to be greater in the temperate and polar regions than in the tropics. Climate modeling suggests that soil moisture for summer crop production would diminish in large grain-producing areas of north America and the Soviet Union. Resulting yields could be cut in half. Such climate changes could carry a price tag of between $7 billion to $23 billion in the U.S. and $200 billion worldwide for irrigation adjustments alone. Changes in sea level for coastal regions and impending flooding imply even greater costs (Postel, 1987). The summer "dry zone" in the North American grain belt will be offset by increased rainfall in other parts of the world but not necessarily with good soils. The social impact of climatic changes will be the greatest rather early before global equilibrium has been reached and before human societies have had a chance to adapt to their new environment (Schneider, 1987). To highlight how serious this is a look at only one key food-producing region -the Western United States - shows that much of this area could exerience a rise in temperature and a reduction in rainfall. A modest temperature increase of 2 degrees Celsius and a 10 percent decline in rainfall would reduce the flow of water in Western river basins from 40 to 76 percent. Or conversely, these rivers will carry only from 24 to 60 percent of their present flow. (Postel, 1987). California and Mexico have been in the courts for years now litigating water rights for the Colorado river. One can imagine the implications of a 76% reduction in what little water is now available.

THE COSTS OF DECOMMISSIONING NUCLEAR PLANTS

No one knows how much it will cost to take out of service the hundreds of nuclear units that now exist because so little experience with this process exists. Estimates range from $50 million to $3 billion per plant. The earlier rush to build these plants prior to 1980 means that much of the bill may come due in a single decade - from 2000 to 2010. Nuclear plants are not simply things one can abandon like an obsolete steel mill we see so often in TV dramas. They cannot be exploded and dropped flat to the ground like old hotels removed for urban renewal but rather they have to be dismantled carefully by robotics, the pieces cut up and buried at a monitored storage facility for an indeterminate length of time - longer indeed than any society has ever existed and longer than some species have existed, and in some cases, longer than some geological formations have existed. Expert opinion varies on the economical life expectancy of a nuclear reactor but few debate a lifespan of longer than 30 years. Great scientific minds were attracted to developing this new technology but showed little interest in managing its inevi-

table wastes. Not one country relying heavily on nuclear power is adequately prepared for this challenge. As individual utilities gained more experience and began to conduct their own cost extimates, waste-management costs rose the fastest. In a ten year period there was a six-fold increase in the decommissioning cost estimates. One of the largest components of decommissioning costs will be waste disposal...up to forty percent according to some estimates. Even the temporary waste storage costs have tripled in the past five years and are expected to increase steadily. More expenditures can be anticipated as communities are offered financial incentives to accept a waste storage facility. Tennessee has been offered $50 million to take one of the first MRS facilities. Labor expenses will rise to compensate workers for hazardous work and the inevitable radiation doses they will receive (Pollack, 1986). In the shadow of the Chernobyl accident studies show that such events should occur only rarely. But if the Three Mile Island and Chernobyl accident rate continues, there is a 70 percent probability that another such accident will occur in the next 5.4 years or three such events by the year 2000. U.S. Government predictions are that such an accident with unfavorable winds as happened in Russia, could cause losses as high as $150 billion and cause 140,000 deaths (Flavin, 1987).

THE COSTS OF AIDS

When the word epidemic is insufficient the word pandemic usually is. This is considered to be the case with AIDS. This disease is truly a global phenomenon. During the first five years of the AIDS epidemic in the United States, 35,000 will have developed the disease. This brings us up to the present day. Over the next five years the Public Health Service estimates that about 235,000 new cases will occur. By 1991, some 270,000 people in the United States will have AIDS or will have died from the disease. Assistant Secretary of Health Donald MacDonald is very uncomfortable with projections for the rate of increase. He feels they are too low. Projected medical costs for this disease in the United States alone is tagged at between 8 billion and 16 billion for the year 1991 alone. This does not include home care given by friends or family or lost income due to illness or for providing home care. The derived figure for health care costs for AIDS patients comes from the San Francisco area where the average cost per patient per year is $46,000 (Barnes, 1986). Arthur Myatt is even more pessimistic. His figures begin with a pool of one million people already infected in the United States. By the middle of the '90's he asserts that there will ten million infected and that one million will have the disease. By that time the costs per patient, by his estimates, will reach $100,000 per year.

Recent newscasts have carried the story of an FDA approval of a treatment (azidothymidine AZT) for stemming the ravages of

AIDS. The patient is not cured, he is only getting a reprieve as long as he takes the medication every four hours for the rest of his life. The medication is expected to cost between $7 thousand and $10 thousand per year. Very few individual patients can afford such an expense. It implies some sort of government intervention. If the numbers of AIDS patients increases as expected in the years to come these costs will be staggaring. Those for whom the vaccine is too late or ineffective, will incur substantial medical debts. This one disease can bring a family very rapidly to a state of bankruptcy. Since this illness begins as a personal problem but rapidly becomes a social one, we cannot avoid the liklihood that much of the financial costs will eventually be borne by public funds.

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This short list of impending developments is by no means complete. There are many other issues that demand attention and will be massively expensive. For example, the costs of preventing environmental pollution are putting some companies out of business; the costs of cleaning up what pollution has already occured is becoming apparent. The small but not insignificant population growth of America requires investment in new housing, schools, buildings, streets, bridges, while the decaying of these same infrastructures that already exist require either constant maintenance or replacement. Investment in our productive capacity to keep us competative with other countries falls behind. For example, who in America is willing to compete with a Korean who will work all day, every day of the week for $3.00 an hour or Mexican labor at $.75 an hour? Many believe that we have responsibilities to Third World countries who seek adequate food and energy for slowly improving living conditions. We must learn and apply the lessons of recycling of our natural and human resources. The next looming scarcity is forecast to be water. Good clean water may become very expensive. Moving beyond the obviously finite resource of oil means investment in more promising sources of more renewable energy. The gap between the have's and the have-not's widens as well as the gap between the well and ill of any age. These promise to be expensive, AIDS notwithstanding.

This list only touches on financial challenges. We may be able to address all or most of these in one way or another. But another big challenge in not fiscal at all. As I have already noted, the sheer diversity of the preceding challenges will tap into much of our administrative and scientific talent in this country. Political decisions will become increasingly difficult and leave little time, energy, and perhaps even talent to deal with what is now our big agenda item: educational reform. When our society is faced with these other immanent threats to welfare, I fear the toll exacted by mediocre education fades rapidly to a far corner of the colletive mind. How ironic that the very vehicle that may allow us to creatively cope with and

resolve these crises - namely education - may be pushed aside. This will be disappointing but not surprising. We, in this country, have a track record of reacting to crises rather than foreseeing and preventing them.

It is my personal view that these developments are converging into our very near future and constitute a very real threat to our national security. The concept of "national security" traditionally refers to a rather paranoid scrutiny of the outer world beyond our borders. We may discover the real villains and threats to our long-term security lie in our own back yard. The insensitive greed and absence of ethics we can find all through our financial, corporate and industrial America translates into exploitation of our own people and resources, the fouling of our own nest, the despoilation of our natural areas, a disregard for the creatures who share this land with us and most horrifying, a complete disregard of the future needs of our own unborn. If we add to the costs of "business-as-usual" the costs of dealing with these additional burdens, it could well mean some hard fiscal decisions will have to be made. If educational reform is one of those costs and you were given to choose priorities, how would you vote? Perhaps educational reform will get a third-rate priority. After all, conventional wisdom tells us the kids in school may not be getting the very best, but at least they're getting something...and they're not in mortal danger. Few politicians think and act in time-frames as long as a generation or even as short as an individual's education? In my opinion all the planning and rhetoric over education will come to naught because of these competing forces.

The Administration's decision to accelerate the arms race in the early eighties has edged military spending to levels deserving awe. Accompanied by an unwillingness to raise taxes or cut other high-priority expenditures has run up a massive federal deficit. Much of this is in the form of military research that competes with American resources of all kinds. It saps the best scientific talent from our industries and universities because that is the best way for these people to advance their careers. It spoils their talents for later use in our manufacturing enterprises because they get used to seeking solutions, not the optimization of scarce resources. These military researchers do not do well later in "civilian" settings. They often have to be let go. The result of this is that American industries (excluding armaments) are losing any competative edge they might have had in the international market place (Greenberg, 1987).

Thus, I am saying that one, we have very demanding problems to face that are already on the table and will drain away our financial resources once ear-marked for educational reform and two, we have some emerging crises requiring very difficult decisions to make regarding our priorities: that national security may no longer lie in protecting our borders from without but in protecting us from our own follies and extravagant ways from

within. Both of these developments will dilute any substantive efforts at educational reform. New ethics of our place in nature will help considerably in defining new solutions and priorities.

A WORD OF CAUTION

Institutions exist by common agreement. Schools, governments, and businesses continue on the basis of our mutual desire that they should persist. When people determine that a bank no longer deserves their trust, a run on the bank will cause its collapse and serves as a self-fulfilling prophecy. Likewise, if we perceive that the coming decades will fail us, we initiate a run on the future that begins with the lifeboat ethic and ends with the accelerated extraction of material resources and the rapid depreciation of our social contract. The coming decades are going to be a watershed, a period that will change much that we embrace. The problems of rising hunger, energy scarcity, erratic weather, and constant global conflict do not augur well for humankind, but these need not cast our fate into a mold. The one resource that is boundless and abundant in all our prospective futures is the human spirit. Of all the variables that one must consider when looking ahead, it is the one that remains most positive. Ultimately, the future of our country and our planet does not lie solely in uncontrolled events, but also with the will of its inhabitants (Hawken,et al; 1982).

THE HUMAN SPIRIT AND SOCIAL TRANSFORMATION

To meet and deal with these five crises and the many others not explored would likely demand a social transformation of considerable magnitude. Many authors have written about such transformations. Hawken (1982) asks,

> "What about the transformation of a whole society? Can a people change direction like a flight of birds, all at once? Would there have to be a leader? Or might some series of events unite all humanity against some common enemy or for some common goal? We like to think that social transformation is an easy thing...But we think it more likely that only a severe shock to the entire system will initiate anything worthy of the the word transformation.

Hawken's prognosis is not good. He feels that a transformation of the required magnitude is not likely without a correspondingly high level of trauma and crisis. And once transformed, should it occur, the deeply religious vein of American life could become as dominant as it was at the nations's inception. But when our industrial paradigm runs head-long into the declining carrying-capacity of the earth the finest qualities of Americans once again surface. Emerson's ideal of "plain living and high

thinking" taps deeply into strong roots of American values and traditions of self-sufficiency and neighorliness (Hawken, 1982).

The closest one can come to identifying a transformation is on a much smaller scale than societal. Thomas Kuhn's book, "The Structure of Scientific Revolutions" states that every dominant scientific paradigm eventually moves to the limits of its methodologies and ceases to be creative. At that point there is an increasing body of information that cannot be incorporated in the existing scheme of things and alternative systems must emerge. This has happened several times in the sciences. Can it happen at the larger level of an entire society? There must come to the awareness of a large number of people that there is an increasing discrepancy between existing and developing conditions...that continuity is increasingly unlikely.

Shall we have a continuing industrial, mass-consumption, materially advancing society that increasingly soils its own nest or shall we have a slow-growth (or no-growth), high quality-of-life society? Most Americans have a wait-and-see, ambivalent attitude. From a social-psychic perspective to hold such high-tension ambivalence toward such profound issues sets up stress in the entire society. Yet this stress must be endured for the present while we, as a nation, get our priorities in order. Greying America has worked very hard for its present gains and privileges. Yankelovich (1980) reports:

1. America is not yet ready to enter the grand debate on the significance of materialism, the evolution and application of new values, or to decide what constitutes an acceptable rate of growth, if any.

2. The public remains somewhat unrealistic about what it wants but they have begun to sense the need to accept greater and different limits than in the past.

3. The public wants to retain the gains in has won during it affluent joy-ride of the 50's and 60's. They seem unwilling to give these up now in order to re-fuel the economic machine that produced them in the first place.

4. There is little interest in self-denial and austerity for the purpose of adding new products and efficiencies in the market. The public will tolerate some self-denial in the interest of stabilizing the economy and reliable sources of essentials, jobs, food, energy.

5. They are willing to strike a new balance between work and leisure (more work, less leisure) if this too provides a measure of economic stability.

6. There is a drive to halt the expansion of certain governmental services if it will reduce taxes and increase

privacy. They do want to retain other entitlements such as social security, retirement benefits, and coverage of medical costs.

7. They want their cars, private dwellings, central heat & air, washing machines, etc, but also wish they would last longer.

8. Government waste will receive close scrutiny; government regulations that curb waste will gain support as well as taxes on luxuries and imports.

Is this really the best that we can do? Is this what we are, what we have become? This mentality, even if not altogether correct, has enough truth in it that some wrenching adjustments will have to be made. The loss of unrestrained materialism will scarcely be cause for mourning. Robert Heilbroner has declared, "Material advance, the most profoundly distinguishing attribute of industrial capitalism and socialism alike, has proved unable to satisfy the human spirit (Heilbroner, 1980). At the Stanford Research Insititute the subject of where our world is going has long been a topic of inquiry. Dwayne Elgin has also found the materialism of our nation wanting. "By defining our identities through the material goods that we consume, we limit and distort our human potentials-we are possessed by our possesions" (Elgin, 1974).
The admonition of restraint is found increasingly in our society. A recent bumper sticker read, "Live Simply That Other May Simply Live". Those advocating voluntary simplicity and urging others to do the same by example often have achieved a personal maturity and sophisticatin that leads to an inner richness as well (Brown, 1978). Marilyn Ferguson, writing in The Aquarian Conspiracy, argues that our metaphors of transcendence have spoken of us more truly than our wars: the clearing, the end of winter, the watering of deserts, light after darkness...these do not spell an end to our troubles but most certainly an end to the mentality of defeat (Ferguson, 1980).

A long litany of sparkling promises and prospective changes that would improve life for all Americans - all people everywhere - is not going to address the central issues. America needs a new image of the future. In 1961 the Dutch historian, Fred Polak introduced a two-volume work, "The Image of the Future". He writes, "in a sense it is the prophet, the projector of images, who may write in advance a considerable part of the history of the future, but the materials out of which he creates his images are drawn largely from the cultural heritage to which he belongs. The images themselves may be thought of as powerful time bombs which explode somewhere in the future, although the men and socities who create them have little control over when, where, and how they will explode" (Polak, 1961) Polak was trying to explain how the German people fell so easily into the clutches of Hitler and his visions. He felt that the German people lacked an image of the future that was compelling. President Kennedy gave

America a short-term image when he declared we would be on the moon within ten years. Polak observes that the identity of these so-called prophets, these creators of appealing mass-images of the future are almost always aristocratic in thought if not in fact. The vision of something far grander than the present invariably belongs the the creative minority. They possess an awareness of the future which makes possible a conscious, voluntary, and resposible choice among alternatives. You, for example, have had a vision of the future, and, as a result of that vision and your actions, certain events are taking place in your lives. At the personal and individual level your vision of your own future required that you be here for this conference engaged in some form of learning or teaching activity. You are certainly not here as the result of random forces over which you had no control. You have chosen to be here. Is there then a societal equivalent of this concept. Polak believes there is. In various ways many authors agree that one of the major dynamics shaping the future is what people presently image that future to be. Since you as an individual have a desire for a particular state of affairs, you take action now, in the present in an attempt to compel your vision or image of the future into manifestation. You are quite literally reacting to an event which has not yet occurred...a reaction to an image. You might agree that much of your rationale for action in the present has its roots in the future.

If you will allow this to be taken as a starting premise...that each culture has a dominant image of the future, we need to ask what is now the nature of that image for America? Today's adults cannot look squarely at our youth and promise delivery of the American Dream. What happens to a society when the image it holds no longer conforms to emerging or developing realities? I do not know the answer to this. I do agree with Dr. Willis Harman of the Stanford Research Institute that one of our most pressing needs is to find a suitable guiding image of the future. I am not sure that at the present we, as a nation, have one. We are fragmented, disoriented, and of one mind. That task is one in which we educators have a large role to play. Thank you.

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